



DEPARTMENT OF THE INTERIOR

National Park Service

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Final Environmental Impact Statement for the Restoration of Native Species in High Elevation Aquatic Ecosystems Plan, Sequoia and Kings Canyon National Parks, Fresno and Tulare Counties, California

AGENCY: National Park Service, Interior.

ACTION: Notice of Availability.

SUMMARY: The National Park Service (NPS) has prepared a Plan and Final Environmental Impact Statement for the restoration of native species in high elevation aquatic ecosystems within Sequoia and Kings Canyon National Parks (SEKI) – (Restoration Plan/Final EIS). The Restoration Plan/Final EIS will guide management actions by the NPS to restore and conserve the native species diversity and ecological function of selected high elevation aquatic ecosystems that have been adversely impacted by human activities and to increase the resistance and resilience of these species and ecosystems to human induced environmental modifications, such as nonnative fish, disease, and climate change. The Restoration Plan/Final EIS would be implemented over a period of 20 to 35 years, depending on the alternative selected, with an internal evaluation of management effectiveness scheduled every 5 to 10 years.

DATES: The NPS will execute a Record of Decision not sooner than 30 days from the date of publication of the U.S. Environmental Protection Agency's notice of availability for the Restoration Plan/Final EIS in the **Federal Register**.

FOR FURTHER INFORMATION CONTACT: Nancy Hendricks, Environmental Compliance and Planning Coordinator, Sequoia and Kings Canyon National Parks, 47050 Generals Highway, Three Rivers, CA 93271, (559)565-3102. Electronic versions of the complete document are available online at <http://parkplanning.nps.gov/aquatics>. Request printed documents or CDs through email (seki_planning@nps.gov) (type “Restoration Plan/Final EIS” in the subject line) or telephone (559)565-3102.

SUPPLEMENTARY INFORMATION: The National Park Service has prepared the Final Environmental Impact Statement for the Restoration of Native Species in High Elevation Aquatic Ecosystems Plan. This process was conducted pursuant to the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) and the implementing regulations promulgated by the Council on Environmental Quality (40 CFR part 1502.9).

The overall goal of this Restoration Plan/Final EIS is to restore clusters of waterbodies to their naturally fishless state in strategic locations across SEKI to create high elevation ecosystems having more favorable habitat conditions for the persistence of native species and ecosystem processes. Preserving and restoring native wildlife and the communities and ecosystems in which they occur is one of the guiding principles for managing biological resources in national parks and is among the desired conditions established in SEKI’s General Management Plan/Final Environmental Impact Statement, approved in 2007.

From 1870 to 1988, nonnative fish were introduced into many heretofore fishless waterbodies throughout SEKI. Surveys conducted from 1997 to 2002 determined that self-sustaining nonnative trout populations had become established in approximately 575 lakes, ponds, and marshes, plus connecting streams, and nearly all streams that drain these sites from high to low elevations. Impacts of nonnative trout on high elevation aquatic and adjacent terrestrial

ecosystems are well documented and occur at all levels of the food web. Nonnative trout impact native species directly through predation and indirectly through competition for food resources. Nonnative trout can disrupt the type and distribution of species, and thus the natural function of aquatic ecosystems.

Two species of mountain yellow-legged frogs (MYLFs) are integral components of SEKI's high elevation aquatic ecosystems. Formerly abundant MYLFs are today among the world's endangered amphibians: over 92% of their populations in the Sierra Nevada have disappeared, and most of the remaining populations are much smaller and more isolated than they were historically. Extensive research has identified two primary factors for this decline. The first factor is the introduction of nonnative trout. Nonnative trout have several direct effects on MYLFs, including predation, competition for food, restriction of breeding to marginal habitat, and fragmentation of remaining populations. The second factor is the recent spread of chytridiomycosis, a disease caused by amphibian chytrid fungus, which has infected and imperiled most remaining MYLF populations. A third emerging factor is global climate change, which has begun to dry up smaller, shallower ponds in SEKI. Ponds have become important habitat for MYLFs because, in basins where nonnative trout occur, fish occupy most of the larger lakes, which are more resistant to climate change. This has restricted many MYLF populations to smaller waterbodies that are more vulnerable to drought and warming.

The Restoration Plan/Final EIS therefore proposes to recover smaller relatively-simple habitats using physical tools and larger more-complex habitats (including whole basins) using alternative tools. Because eradication of nonnative fish from larger, more-complex habitats has been determined infeasible using gill nets and electrofishers, the NPS is considering alternatives using piscicides (rotenone) in order to restore these ecologically significant habitats.

Alternative A: No-action / Status Quo would continue the ongoing ecosystem restoration effort for 25 waterbodies, but no new fish eradication activities would be initiated. Physical treatment methods (gill netting, electrofishing, disturbing redds, and/or temporarily covering spawning habitat with boulders) would continue to be utilized until 2017. Native species and ecological processes in high elevation aquatic ecosystems would be monitored. Research on native species, ecological processes, and their stressors would continue in accordance with NPS policy. After all treatments are completed, self-sustaining nonnative trout populations would continue to exist in 550 waterbodies (252 lakes, 235 ponds, 63 marshes) and hundreds of miles of stream.

Alternative B (NPS preferred alternative) would include physical and piscicide treatments preceding restoration. Under this alternative, a prescription (detailed plan of action) for restoration would be developed for each proposed restoration area based on the criteria for basin selection, pre-treatment surveys, habitat size, basin topography, wilderness values, visitor use, and field crew safety. Prescriptions would consider the actual distribution of fish, results of amphibian surveys, and whether any unique habitats were detected (such as springs). Physical treatment as described under alternative A, plus trapping, would be utilized. Piscicide treatment methods would be considered for waterbodies determined infeasible for physical treatment. Based on current knowledge of the proposed fish eradication sites, physical treatment would be applied in 52 waterbodies (27 lakes, 24 ponds, 1 marsh; total of 492 ac/199 ha) and 15 mi (25 km) of streams in 17 basins, and piscicide treatment would be applied in 33 waterbodies (4 lakes, 25 ponds, and 4 marshes; total of 142 ac/57 ha) and 16 mi (25 km) of streams in 9 basins. In addition, any unsurveyed habitat adjacent to treated lakes, ponds, marshes, and streams found to contain nonnative fish would also require treatment in order to eradicate fish from the geographic area. After all treatments are completed, self-sustaining nonnative trout populations would

continue to exist in 465 waterbodies (221 lakes, 186 ponds, 58 marshes) and hundreds of miles of stream.

Alternative C would use physical treatment methods only to eradicate nonnative fish, and blasting rock to create vertical fish barriers (if needed). In comparison to alternative B, excluded from the list of proposed restoration waterbodies are long reaches of stream, several large lakes, and interconnected lake complexes that are too large for effective physical treatment. Physical treatment methods would be applied in 52 waterbodies (27 lakes, 24 ponds, and 1 marsh; total of 492 ac/199 ha) and 15 mi (25 km) of streams contained in 17 basins. In addition, any unsurveyed habitat adjacent to treated lakes, ponds, marshes, and streams found to contain nonnative fish would be treated to eradicate fish from the entire scope of the restoration area. After all treatments are completed, self-sustaining nonnative trout populations would continue to exist in 498 waterbodies (225 lakes, 211 ponds, 62 marshes) and hundreds of miles of stream.

Alternative D emphasizes speed in recovering habitat because MYLF populations are declining rapidly. To achieve this, only piscicide treatment would be used for nonnative fish eradication, which can be conducted faster than using physical methods. Piscicide treatment would be used for 85 waterbodies (31 lakes, 49 ponds, and 5 marshes; total of 634 ac/257 ha), approximately 31 mi (50 km) of streams, and connected fish-containing habitat as necessary. After all treatments are completed, self-sustaining nonnative trout populations would continue to exist in 465 waterbodies (221 lakes, 186 ponds, 58 marshes) and hundreds of miles of stream.

Dated: March 25, 2016.

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